

**Before the
Federal Communications Commission
Washington, DC 20554**

In the matter of: In Re: Delete, Delete, Delete

GN Docket No. 25-133

COMMENTS OF QUENTIN J. SCHULTZE, PHD, AND THOMAS A. DULISCH
IN RE: DELETE, DELETE, DELETE

We respectfully submit these comments to the Federal Communications Commission (FCC) in regards to the above-referenced proceeding, pursuant to increasing the efficiency and performance of Part 97 regulations.

We both have been licensed amateur radio operators since the 1960s and co-host a YouTube Channel called “Ham Radio Perspectives.” We have held Extra Class licenses since the 1970s.

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I. Executive Summary

In tune with the Public Notice, we propose the following regulatory changes in order to: (1) simplify the Amateur Radio, Part 97, regulations, (2) increase the number of qualified amateur (“ham”) radio operators available and engaged in public service (and thereby also ease some of the financial and personnel burdens on federal, state, and local emergency services), and (3) promote technological innovation and growth among especially younger Americans who will contribute to American competitiveness.

Specifically, we propose reducing the number of amateur radio license classes from the current three (Technician, General, and Extra—not counting the Advanced license, which some amateurs hold but is no longer issued anew) to two (revised Technician and Extra Classes), as well as change some of the frequency and mode operating privileges for Technician and Extra classes, as explained below.

II. Enhance the Technician Class License

The Technician Class license is the gateway to amateur radio. It should provide newcomers exposure to a wide range of communications technologies and procedures in a nation that values innovation and competitiveness.

Therefore, we recommend enhancing the Technician Class license to include the operation of digital/data modes of communication on the current high-frequency (HF) bands of 80 meters, 40 meters, and 20 meters, with an output power not to exceed 50 watts. Digital modes of communication are increasingly important in all mediated communication throughout the world, from military and commercial to amateur. Such computer-based communication uses narrow bandwidths and will not produce any burden on existing amateur radio spectrum or cause undue interference within or beyond amateur radio services; in fact, it provides a more efficient use of spectrum than other modes and equips those who live in restricted settings, such as Home Owner's Associations, to use minimal antennas and low power for effective communication. This addition of digital/data communication on HF would entice more young people to enter amateur radio and to learn how digital communications work in a wide array of frequency bands.

We further recommend expanding the Technician Class “phone” privileges to the entire 10- and 12-meter amateur radio spectrums currently available to other, more “advanced” license classes. Since these bands are largely unused and not in demand by other services, there will not be any usage burden on the spectrum or competition with other services. Moreover, many FCC-approved transceivers specifically for these bands are already available.

Finally, we recommend allowing Technician Class licensees to operate on a segment of the 40-meter phone band currently used by General, Advanced, and Extra classes (7.200-7.300 MHz), with a maximum output power of 100 watts. Often the 10- and 12-meter bands are not suitable for distance communication during low periods in the 11-year sunspot cycle, whereas 40 meters is usable nearly every day of the year throughout the sunspot cycle. We believe that by

engaging in HF phone communication, these Technician operators will have opportunities to learn how to be better prepared for longer-distance emergency communication—beyond what they can learn with just HF digital communication and with communication on local, higher-frequency bands such as 2 meters (144 MHz). Most of the daily amateur radio “nets” that operate on 40 meters are in that recommended higher segment of the band; Technician Class licensees should learn how those nets function and how HF phone communication works in general, even when the 10- and 12-meter bands are not atmospherically usable.

Moreover, access to 40-meter phone prepares Technician Class operators for the impending use of digital phone communications. Clearly such knowledge and skills are in the interest of American innovation. Our proposal is an opportunity for the FCC to both simplify the regulatory burden of the Part 97 amateur radio service and prepare the service for stimulating new digital phone methods of communication.

Some licensed amateurs have expressed to us the concern that opening a section of 40-meter phone to Technician Class operators would exacerbate the signal congestion on that band. As we explain below, however, we also recommend opening up the entire 40-meter phone band (7.125-7.300 MHz) to all other classes of operators; currently, Extra and Advanced Class operators maintain sole phone privileges on the lower end of 40-meter phone (7.125-7.175 MHz), and that portion of the spectrum is underutilized. Our proposal does not conflict with existing international standards.

We believe that the full “socialization” of new amateur radio operators into the hobby—so that they might learn the broadest range of operating skills and challenges across different operating conditions and modes—requires access to phone operation on an HF band where daily nets and distance emergency communications occur, and where HF communications can be undertaken nearly around the clock, throughout the year, and during low points in the sunspot cycles.

III. Eliminate the General Class License

The Novice, Technician, General, and Advanced classes became part of an incentive licensing project in the late 1960s, designed to provide an enticement for amateur radio operators to increase their technical abilities and perhaps their communication facility. In the process, the General/Conditional and Advanced portions of the HF bands were reduced, making the Extra

Class license the only one with full privileges. In 1999, the Novice and Advanced Classes were eliminated (except for existing holders of the Advanced license). Both the creation of incentive licensing in the 1960s and the unraveling of some incentive licensing in 1999 created considerable ill will among many amateurs. In fact, there is no evidence that the multi-class incentive licensing system improved amateur radio operation or technological development. It did create a greater regulatory burden—both by creating it and by beginning to dismantle it. We believe that it is time to return to the simple two-license system that served the amateur radio system for so many years and serves other nations as well.

IV. Simplify Amateur Radio Administration, Regulation, and Licensing with a 2-Class System—Technician and Extra

In incentive licensing, the resulting distinction between the General and Extra classes was merely a matter of frequencies of operation (with General Class operators actually losing privileges); the General Class license holders were prohibited from some HF frequencies.

In fact, the Advanced Class license exam (no longer available) was the most technologically oriented and difficult of the exams (more than the “upper-level” Extra Class exam). Yet, by changing in 1984 to a Volunteer Examiner (VE) system for examinations, and making the examination question pools available to prospective licensees, none of the licenses is particularly difficult to achieve. In addition, morse code (CW) proficiency is no longer required for any level of license. The justifications for multiple license classes have evaporated.

Today, there is no reason to have more than two classes of license—the entry-level Technician Class (or by a new name) and the upper-level Extra Class (again, perhaps by a new name). Such a two-class system: (1) simplifies the licensing system, and (2) reduces the administrative, regulatory, and licensing burdens. For all practical purposes, there would be one full-privilege license (Extra), and one entry-level license (Technician)—echoes of the early days of ham radio when there was a Class A and a Class B (along with a third, special, Conditional license primarily for those who could not visit an FCC field office or temporary examination location).

V. Make the Extra Class license the only “upper-level” license and “grandfather” into it the existing General Class and Advanced Class license classes.

By eliminating the General and Advanced Class licenses (the latter is reissued only to those who previously held the license, anyway), the remaining Extra Class license can be the goal for all amateur operators who wish to have full access to all permitted frequencies, modes, and power levels. Moreover, the General Class licenses are returned to their original status, with full privileges, before incentive licensing took away some privileges. This would create considerable good will among those General Class operators who lost privileges years ago.

One remaining question is what the examination requirements would be for the “new” Extra Class license. We recommend a license examination that combines elements of the existing General and Extra classes, *focusing primarily on relevant FCC rules and regulations rather than on technical standards and electronic understanding.*

VI. Increase Overall Amateur Radio Operation and Preparedness

We would like to point out that in our informal online discussions with existing licensed amateur operators, the major argument against moving to such a two-tier system of licensing was that it would result in a “dumbing down” of the abilities of operators. Sometimes such critics even argue that the amateur service would become like the Citizen’s Band when it comes to illegal and unethical operation combined with a lack of technical expertise.

This is a fallacious type of rationale that has been used throughout the history of ham radio whenever regulatory changes to the hobby were proposed. The truth is: (1) hams are very self-regulating, using strong peer pressure to constantly improve both technologically and ethically, as evidenced once again by the recent cooperation between the American Radio Relay League (ARRL) and the FCC to create the Volunteer Monitoring Program, (2) very few amateurs design and fabricate their own equipment, (3) nearly all hams use equipment that is FCC approved, (4) much of the growth of electronics is now tied to software development, which is not covered in amateur licensing examinations, (5) the overall growth of amateur radio is in the interest of American emergency communication as well as in technological (especially software) development, and (6) the entire Volunteer Examiner (VE) system with open exam-question pools has made the hobby more accessible to those who are seeking more than technical expertise.

In our survey of current license holders, we discovered that most hams are far more concerned about the operating abilities of newcomers than they are about newcomers’ purely technical abilities. We agree. Moreover, we contend that *knowing how to communicate in a*

variety of conditions and situations is just as important to the hobby and the nation as is understanding the engineering behind electronic and digital equipment.

VII. Additional Background and Support

1. A two-class system of licensing served amateur radio throughout its early years—Class A and Class B (with the special Conditional Class). Since then, the manufacturing of radio equipment has vastly overtaken “home-brew” equipment. Moreover, morse code (CW), which indicated an important level of expertise in the early 20th century, is not nearly so significant in the hobby, although it still has its champions and is worth keeping alive.

Instead, the most important distinctions today have to do with those who are using traditional modes of communication and those who are pursuing digital means and methods; with respect to the latter, software development is extremely important and of interest especially to younger potential operators. It is also of vital interest to the nation and industry.

2. Many countries around the world (e.g., Germany and India) have two-step licensing systems for their amateur radio operators. We heard from residents of some of these countries who believe that such a system works well.

3. As mentioned above, an informal survey of radio amateurs conducted by the authors of this document on YouTube and QRZ.com found that most license holders are more concerned with the quality of radio operations (communications) than with the purely technical abilities of amateurs. They believe that the license exams should focus more on rules and regulations than on technical expertise. This, too, suggests reworking the Extra Class examination to focus more on operating knowledge and skills than on technology per se.

4. The Advanced Class license is no longer issued except under renewal for those who previously attained the license. The same could be done with the Extra Class if it is replaced by a new class. Some Extra Class operators would probably like to keep their status, as Advanced operators currently can, even if the privileges are not changed. Nevertheless, we see this as continuing the administrative burden begun with maintaining the Advanced Class license records. Nevertheless,

it would be possible to give the new, upper-class license a different name and keep the Extra Class operators on record as holding the Extra “title.”

5. The popularity of the General Radio Mobile Service (GMRS) suggests that there is considerable interest in radio communication among those who have not sought amateur radio licensing. Currently there are about as many licensed GMRS operators as there are amateur radio Technician Class licensees. A more fully orbited, digitally enhanced, Technician Class license would likely attract GMRS users who currently cannot participate in HF communication and whose UHF repeaters offer limited service in times of emergency. By participating in the amateur radio community, these GMRS operators will have available to them a wide range of training and practice in emergency communication. This is something hams do very well.

Appendix: Current License Class Frequency Allocations

Extra	Advanced	General	Technician
1.8000-2.000	1.8000-2.000	1.8000-2.000	xxxxxxxxxx
3.500-3.600	3.525-3.600	3.525-3.600	3.525-3.600
3.600-4.000	3.700-4.000	3.800-4.000	7.025-7.125
5.332, 5.348, 5.3585, 5.373 and 5.405 MHz			xxxxxxxxxx
7.000-7.300	7.025-7.300	7.025-7.125	21.025-21.200
10.100-10.150	10.100-10.150	7.175-7.300	28.0-28.5
14.000-14.350	14.025-14.150	10.100-10.150	
18.068-18.168	14.175-14.350	14.025-14.150	
21.000-21.450	18.068-18.168	14.225-14.350	
24.890-24.990	21.025-21.200	18.068-18.168	
28.000-29.700	21.225-21.450	21.025-21.200	
	24.890-24.990	21.275-21.450	
	28.000-29.700	24.890-24.990	
		28.000-29.700	

Appendix: Proposed License Class Frequency Allocations

Extra	Tech	Technician freq./mode	
1.8000-2.000	xxxxxxxxxx		
3.500-3.600	3.525-3.600		
3.600-4.000	3.800-4.000		
5.332, 5.348, 5.3585, 5.373 and 5.405 MHz	xxxxxxxxxx		
7.000-7.300	7.025-7.125		
10.100-10.150	7.200-7.300		
14.000-14.350	14.000-14.200		
18.068-18.168	xxxxxxxxxx		
21.000-21.450	xxxxxxxxxx		
24.890-24.990	24.890-24.990		
28.000-29.700	28.000-29.700		

RTTY, data	
Phone, image	
CW	